

AMENDMENTS TO THE CLAIMS

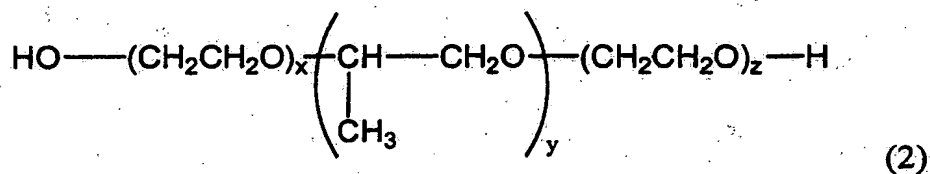
1. (Currently Amended): A method for limiting the penetration into the scalp and/or the hair of at least one dye contained in a hair dyeing composition comprising applying on the scalp and/or on the hair, as a pre-treatment, before a hair dyeing process using the hair dyeing composition, a dye penetration limiting effective amount of an antipenetrating composition comprising, in a physiologically acceptable medium, an amount higher than 5% and lower than 20% in weight of the weight based on the total volume of the composition of at least one oxyethylenated polymer selected from the group consisting of:

a) polyethylene glycols with the general formula (1):



where n is higher than 45 and lower than 795,

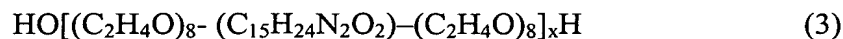
b) block polymers with ethylene oxide and propylene oxide blocks, having the formula (2):



where

- x and z are such that at least one of x and z is higher than 75, and
- y is higher than 30,

c) the polyethylene glycol copolymer comprising 8 successive ethylene oxide and dicyclohexylmethane diisocyanate groups having the formula (3):



where x ranges from 1 to 4 such that the copolymer average molecular mass is 1800 g.mol^{-1} ,
and

d) mixtures thereof.

2. (Canceled).

3. (Previously Presented): The method according to claim 1 wherein the composition comprises a polyethylene glycol a) and the polyethylene glycol comprises 75 to 600 ethylene oxide groups per molecule.

4. (Previously Presented): The method according to claim 3, wherein the polyethylene glycol is selected from the group consisting of PEG-90, PEG-100, PEG-135, PEG-180, PEG-200, PEG-240, PEG-350 and PEG-454.

5. (Previously Presented): The method according to claim 1 wherein the composition comprises a block polymer with ethylene oxide and propylene oxide blocks b), having the formula 2), and wherein at least one of x and z is equal to or higher than 80 and y is higher than 45.

6. (Previously Presented): The method according to claim 5, wherein x and z are equal to 98 and y is equal to 67.

7. (Previously Presented): The method according to claim 1, wherein the physiologically acceptable medium is a solubilizing medium for the oxyethylenated polymer.

8. (Previously Presented): The method according to claim 1, wherein the physiologically acceptable medium comprises a solvent or a mixture of solvents for the oxyethylenated polymer.

9. (Previously Presented): The method according to claim 8, wherein the solvent is selected from the group consisting of water, alcohols, ethers, dimethylsulfoxide, N-methylpyrrolidone, acetones, and the mixtures thereof.

10. (Previously Presented): The method according to claim 9, wherein the solvent comprises at least one alcohol selected from the group consisting of alkanols, benzyl alcohol and alkanediols.

11. (Previously Presented): The method according to claim 10, wherein the alkanols are (C₁-C₆) lower alkanols.

12. (Previously Presented): The method according to claim 10, wherein the alkanediols are selected from the group consisting of ethylene glycol, propylene glycol and pentanediol.

13. (Previously Presented): The method according to claim 9, wherein the solvent is a water/alcohol mixture.

14. (Previously Presented): The method according to claim 13, wherein the alcohol accounts up to 80% in volume of the water/alcohol mixture.

15. (Previously Presented): The method according to claim 14, wherein the water/alcohol mixture is a water/ethanol mixture comprising 70% in volume of ethanol based on the weight of the water/ethanol mixture.

16. (Previously Presented): The method according to claim 1, wherein the composition further comprises conventional gellants, thickening agents, anionic, non ionic, cationic or amphoteric surfactants, propenetrating agents, emulsifiers, perfumes, preservatives, fillers, sunscreens, proteins, vitamins, provitamins, anionic, non ionic, cationic

or amphoteric non fixing polymers, hydrating agents, emollients, softening agents, mineral, vegetable or synthetic oils, hydrophilic or lipophilic active ingredients, anti-foaming agents, antiperspirant agents, anti-free radical agents, bactericides, sequestrants, anti-dandruff agents, alkalizing agents, volatile or non volatile, linear or cyclic, modified or not, silicones, polyols, or any other additive conventionally used in cosmetic compositions intended to be applied on the hair.

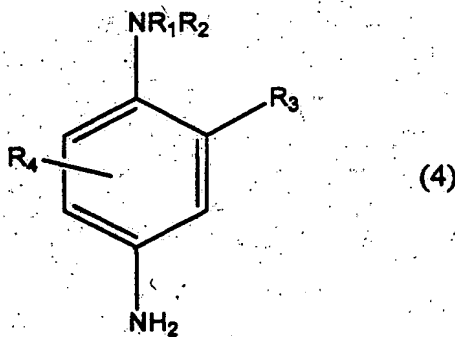
17. (Canceled).

18. (Previously Presented): A method according to claim 1, wherein the application duration on the scalp and on the hair of the antipenetrating composition is from 5 seconds to one hour.

19. (Canceled).

20. (Previously Presented): A method according to claim 19, wherein the oxidation bases are selected from the group consisting of ortho- and para-phenylene diamines.

21. (Previously Presented): A method according to claim 20, wherein the oxidation bases are selected from the group consisting of para-phenylenediamines having the formula (4):



where:

R₁ represents a hydrogen atom, a C₁-C₄ alkyl moiety, a C₁-C₄ monohydroxyalkyl, C₂-C₄ polyhydroxyalkyl, (C₁-C₄)alkoxy(C₁-C₄)alkyl, C₁-C₄ alkyl substituted by a nitrogen, phenyl or 4'-aminophenyl group;

R₂ represents a hydrogen atom, C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl, or C₂-C₄ polyhydroxyalkyl, (C₁-C₄)alkoxy(C₁-C₄)alkyl or C₁-C₄ alkyl substituted by a nitrogen group;

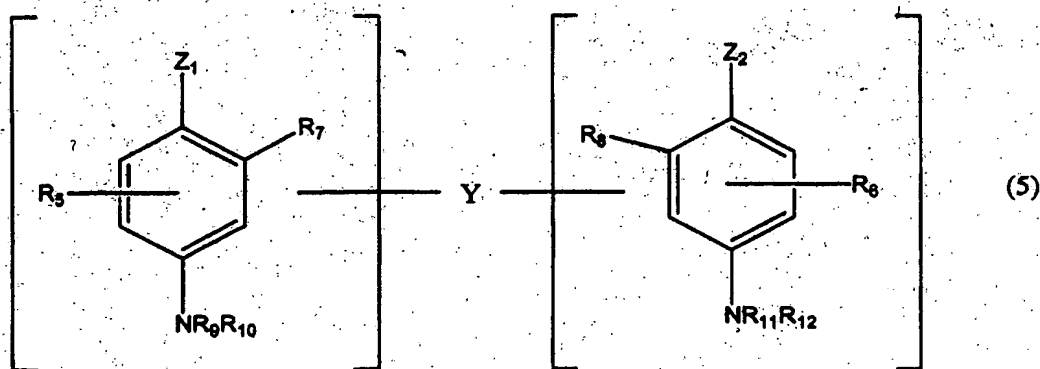
R₃ represents a hydrogen atom, a halogen atom, a C₁-C₄ alkyl moiety, a sulfo, carboxy, a C₁-C₄ monohydroxyalkyl, C₁-C₄ hydroxyalkoxy, C₁-C₄ acetylaminoalkoxy, C₁-C₄ mesylaminoalkoxy or C₁-C₄ carbamoylaminoalkoxy;

R₄ represents a hydrogen, halogen atom or a C₁-C₄ alkyl moiety;

R₁ and R₂ may also form with the nitrogen atom carrying them a 5 or 6 member nitrogen heteroring optionally substituted by one or more alkyl, hydroxy or ureido groups.

22. (Previously Presented): A method according to claim 21, wherein the para-phenylenediamines are selected from the group consisting of paraphenylenediamine, paratoluylenediamine, 2-isopropyl-paraphenylenediamine, 2- β -hydroxyethyl-paraphenylenediamine, 2,6-dimethyl-paraphenylenediamine, N,N-bis-(β -hydroxyethyl)-paraphenylenediamine, 2-chloro-paraphenylenediamine, and their addition salts with an acid.

23. (Previously Presented): A method according to claim 20, wherein the oxidation bases are double bases having the formula (5):

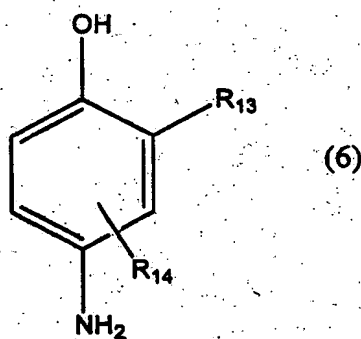


where:

- Z_1 and Z_2 , whether identical or different, represent a hydroxyl or $-NH_2$ moiety optionally substituted by a C_1 - C_4 alkyl moiety or by a Y-binding branch;
- the Y binding branch represents an alkylene chain comprising 1 to 14 carbon atoms, linear or branched, able to be interrupted or ending with one or more nitrogen groups and/or by one or more heteroatoms such as oxygen, sulphur or nitrogen atoms, and optionally substituted by one or more C_1 - C_6 hydroxyl or alkoxy moieties;
- R_5 and R_6 represent a hydrogen or a halogen atom, a C_1 - C_4 alkyl, C_1 - C_4 monohydroxyalkyl, C_2 - C_4 polyhydroxyalkyl, C_1 - C_4 aminoalkyl moiety or a Y binding branch;
- R_7 , R_8 , R_9 , R_{10} , R_{11} and R_{12} , whether identical or different, represent a hydrogen atom, a Y binding branch or a C_1 - C_4 alkyl moiety; on the condition that the compounds with formula (5) only have one Y binding branch per molecule.

24. (Previously Presented): A method according to claim 23, wherein the double bases are selected from the group consisting of N,N'-bis-(β -hydroxyethyl) N,N'-bis-(4'-aminophenyl) 1,3-diamino propanol, N,N'-bis-(β -hydroxyethyl) N,N'-bis-(4'-aminophenyl) ethylenediamine, N,N'-bis-(4-aminophenyl) tetramethylenediamine, N,N'-bis-(β -hydroxyethyl) N,N'-bis-(4-aminophenyl) tetramethylenediamine, N,N'-bis-(4-methylaminophenyl) tetramethylenediamine, N,N'-bis-(ethyl) N,N'-bis-(4'-amino, 3'-methyl) ethylenediamine, 1,8-bis-(2,5-diaminophenoxy)-3,5-dioxaoctane, and their addition salts with an acid.

25. (Previously Presented): A method according to claim 20, wherein the oxidation bases are para-aminophenols having the formula (6):



where:

- R₁₃ represents a hydrogen atom, a halogen atom, a C₁-C₄ alkyl, C₁-C₄ monohydroxyalkyl, (C₁-C₄) alkoxy (C₁-C₄) alkyl, C₁-C₄ aminoalkyl, or C₁-C₄ hydroxyalkyl aminoalkyl(C₁-C₄) moiety; and

- R₁₄ represents a hydrogen atom or a halogen atom, a C₁-C₄ alkyl, C₁-C₄ monohydroxyalkyl, C₂-C₄ polyhydroxyalkyl, C₁-C₄ aminoalkyl, C₁-C₄ cyanoalkyl or (C₁-C₄)alkoxy(C₁-C₄)alkyl moiety.

26. (Previously Presented): A method according to claim 25, wherein the para-aminophenols are selected from the group consisting of para-aminophenol, 4-amino-3-methyl-phenol, 4-amino-3-fluoro-phenol, 4-amino-3-hydroxymethyl-phenol, 4-amino-2-methyl-phenol, 4-amino-2-hydroxymethyl-phenol, 4-amino-2-methoxymethyl-phenol, 4-amino-2-aminomethyl-phenol, 4-amino-2-(β -hydroxyethyl-aminomethyl)-phenol, and their addition salts with an acid.

27. (Previously Presented): A method according to claim 20, wherein the oxidation bases are orthodiphenols selected from the group consisting of 2-amino-phenol, 2-amino-1-hydroxy-5-methyl-benzene, 2-amino-1-hydroxy-6-methyl-benzene, 5-acetamido-2-amino-phenol, and their addition salts thereof with an acid.

28. (Previously Presented): A method according to claim 20, wherein the oxidation bases are heterocyclic bases selected from the group consisting of pyridine derivatives, pyrimidine derivatives, pyrazoline derivatives, and their addition salts with an acid.

29. (Previously Presented): A method according to claim 28, wherein the pyridine derivatives are selected from the group consisting of 2,5-diamino-pyridine, 2-(4-methoxyphenyl)amino-3-amino-pyridine, 2,3-diamino-6-methoxy-pyridine, 2-(β -methoxyethyl)amino-3-amino-6-methoxy pyridine, and 3,4-diamino-pyridine.

30. (Previously Presented): A method according to claim 28, wherein the pyrimidine derivatives are selected from the group consisting of 2,4,5,6-tetra-aminopyrimidine, 4-hydroxy-

2,5,6-triaminopyrimidine, 2-hydroxy-4,5,6-triaminopyrimidine, 2,4-dihydroxy-5,6-diaminopyrimidine, 2,5,6-triaminopyrimidine, pyrazolo-pyrimidine derivates, pyrazolo-[1,5-a]-pyrimidine-3,7-diamine; 2,5-dimethyl-pyrazolo-[1,5-a]-pyrimidine-3,7-diamine; pyrazolo-[1,5-a]-pyrimidine-3,5-diamine; 2,7-dimethyl-pyrazolo-[1,5-a]-pyrimidine-3,5-diamine; 3-amino-pyrazolo-[1,5-a]-pyrimidin-7-ol; 3-amino-pyrazolo-[1,5-a]-pyrimidin-5-ol; 2-(3-amino pyrazolo-[1,5-a]-pyrimidin-7-ylamino)-ethanol; 2-(7-amino-pyrazolo-[1,5-a]-pyrimidin-3-ylamino)-ethanol; 2-[(3-amino-pyrazolo[1,5-a]pyrimidin-7-yl)-(2-hydroxy-ethyl)-amino]-ethanol; 2-[(7-amino-pyrazolo-[1,5-a]pyrimidin-3-yl)-(2-hydroxy-ethyl)-amino]-ethanol; 5,6-dimethyl-pyrazolo-[1,5-a]-pyrimidine-3,7-diamine; 2,6-dimethyl-pyrazolo-[1,5-a]-pyrimidine-3,7-diamine; 2,5,N7,N7-tetramethyl-pyrazolo-[1,5-a]-pyrimidine-3,7-diamine; 3-amino-5-methyl-7-imidazolylpropylamino pyrazolo-[1,5-a]-pyrimidine; and the addition salts thereof and their tautomeric forms, when there is a tautomeric balance.

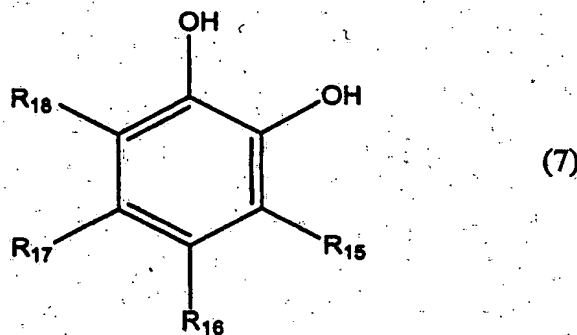
31. (Previously Presented): A method according to claim 28, wherein the pyrazole derivates are selected from the group consisting of 4,5-diamino-1-methyl-pyrazole, 3,4-diamino-pyrazole, 4,5-diamino-1-(4'-chlorobenzyl)-pyrazole, 4,5-diamino 1,3-dimethyl-pyrazole, 4,5-diamino-3-methyl-1-phenyl pyrazole, 4,5-diamino 1-methyl-3-phenyl-pyrazole, 4-amino-1,3-dimethyl-5--hydrazino-pyrazole, 1-benzyl-4,5-diamino-3-methyl-pyrazole, 4,5-diamino-3-tert-butyl-1-methylpyrazole, 4,5-diamino-1-tert-butyl-3-methyl-pyrazole, 4,5-diamino-1-(β -hydroxyethyl)-3-methylpyrazole, 4,5-diamino-1-(β -hydroxyethyl)-pyrazole, 4,5-diamino-1-ethyl-3-methyl-pyrazole, 4,5-diamino-1-ethyl-3-(4'-methoxyphenyl)-pyrazole, 4,5-diamino-1-ethyl-3-hydroxymethyl-pyrazole, 4,5-diamino-3-hydroxymethyl-1-

methyl-pyrazole, 4,5-diamino-3-hydroxymethyl-1-isopropyl-pyrazole, 4,5-diamino-3-methyl-1-isopropyl-pyrazole, 4-amino-5-(2'-aminoethyl)amino-1,3-dimethyl-pyrazole, 4,5-triamino-pyrazole, 1-methyl-3,4,5-triamino-pyrazole, 3,5-diamino-1-methyl-4-methylamino-pyrazole, and 3,5-diamino-4-(β -hydroxyethyl)amino-1-methyl-pyrazole.

32. (Previously Presented): A method according to claim 20, wherein the oxidation base accounts for 0.0005 to 12% in weight of the total weight of the composition.

33. (Previously Presented): A method according to claim 19, wherein the orthodiphenols comprise a condensed benzene ring or an aromatic ring carrying at least two hydroxyl groups on two consecutive carbon atoms of the ring.

34. (Previously Presented): A method according to claim 33, wherein the orthodiphenols are compounds having the formula:



where the R₁₅ to R₁₈ substituents, identical or different, represent a hydrogen atom, a halogen, hydroxyl, carboxyl, alkyl carboxylate, optionally substituted amino moiety, optionally substituted linear or branched alkyl, optionally substituted linear or branched alkenyl, optionally substituted cycloalkyl, alkoxy, alkoxyalkyl, alkoxyaryl, the aryl group being optionally substituted, aryl, aryl substituted, an optionally substituted heterocyclic moiety, a

moiety optionally containing one or more silicon atoms, where two of the R_{15} to R_{18} substituents form together a saturated or an unsaturated ring optionally containing one or more heteroatoms and optionally condensed with one or more saturated or unsaturated rings optionally containing one or more heteroatoms.

35. (Previously Presented): A method according to claim 33, wherein the orthodiphenols are selected from the group consisting of flavanols, flavonols, anthocyaninidins, anthocyanines, hydroxybenzoates, flavones, iridoids, such compounds being optionally osylated and/or in the form of oligomers, optionally osylated hydroxystilbenes, 3,4-dihydroxyphenylalanine and the derivatives thereof, 2,3-dihydroxyphenylalanine and the derivatives thereof, 4,5-dihydroxyphenylalanine and the derivatives thereof, 4,5-dihydroxyindole and the derivatives thereof, 5,6-dihydroxyindole and the derivatives thereof, 6,7-dihydroxyindole and the derivatives thereof, 2,3-dihydroxyindole and the derivatives thereof, dihydroxycinnamates, hydroxycoumarins, hydroxyisocoumarins, hydroxycoumarones, hydroxyisocoumarones, hydroxychalcones, hydroxychromones, anthocyanes, quinones, hydroxyxantones, and the mixtures of two or more of the previous compounds.

36. (Previously Presented): A method according to claim 35, wherein the orthodiphenols are selected from the group consisting of 5,6-dihydroxyindole and 5,6-dihydroxyindole carboxylic acid.

37. (Previously Presented): A method according to claim 19, wherein the orthodiphenols are contained in plant, fruit or citrus fruit extracts, or mixtures of such extracts.

38. (Previously Presented): A method according to claim 37, wherein the orthodiphenols are contained in tea, grape, apple, banana, potato extracts, or mixtures of such extracts.

39. (Previously Presented): A method according to claim 19 wherein the coupling agents are selected from the group consisting of meta-aminophenols, meta-phenylenediamines, metadiphenols, naphthols, heterocyclic coupling agents, indole derivatives, indolin derivatives, sesamol and the derivatives thereof, pyridine derivatives, pyrazolotriazole derivatives, pyrazolones, indazoles, benzimidazoles, benzothiazoles, benzoxazoles, 1,3-benzodioxoles, quinolins and their addition salts with an acid.

40. (Previously Presented): A method according to claim 39, wherein the coupling agents are selected from the group consisting of 2,4-diamino 1-(β -hydroxyethyloxy) benzene, 2-methyl 5-amino phenol, 5-N-(β -hydroxyethyl)amino 2-methyl phenol, 3-amino phenol, 1,3-dihydroxy benzene, 1,3-dihydroxy 2-methyl benzene, 4-chloro 1,3-dihydroxy benzene, 2-amino 4-(β -hydroxyethylamino) 1-methoxy benzene, 1,3-diamino benzene, 1,3-bis-(2,4-diaminophenoxy) propane, sesamol, 1-amino 2-methoxy 4,5-methylenedioxy benzene, α -naphthol, 6-hydroxy indole, 4-hydroxy indole, 4-hydroxy N-methyl indole, 6-hydroxy indoline, 2,6-dihydroxy 4-methyl pyridine, 1-H 3-methylpyrazole 5-one, 1-phenyl 3-methylpyrazole 5-one, 2-amino 3-hydroxypyridine, 3,6-dimethyl-pyrazolo-[3,2-c]-1,2,4-triazole, 2,6-dimethyl-pyrazolo-[1,5-b]-1,2,4-triazole and the addition salts thereof with an acid.

41. (Previously Presented): A method according to claim 39, wherein coupling agent(s) account(s) for 0.0001 to 15% in weight of the total weight of the composition.

42. (Previously Presented): A method according to claim 17, wherein the hair dyeing composition comprises one or more direct dyes.

43. (Previously Presented): A method according to claim 42 wherein direct dyes account for 0.001 to 20% in weight of the total weight of the composition.

44. (Previously Presented): A method according to claim 17, wherein the hair dyeing composition comprises one or more amino acids and/or one or more proteins.

45. (Previously Presented): A method according to claim 44, wherein the amino acids comprise at least one thiol group and are selected from amino acids having an amine function in position α compared with a carboxylic acid function.

46. (Previously Presented): A method according to claim 44, wherein amino acid(s) is/are selected from cysteine and the derivatives thereof, and the proteins are selected from glutathione and the derivatives thereof.

47. (Previously Presented): A method according to claim 44, wherein the molar ratio of the amino acid(s) and of the protein(s) to the other oxidation dyes varies from 0.001 to 50.

48. (Previously Presented): A method according to claim 1, wherein the hair dyeing composition further comprises an enzyme.

49. (Previously Presented): A method according to claim 48, wherein the enzyme is selected from the group consisting of pyranose oxydases glucose oxydases, glycerol oxydases, lactate oxidases, pyruvate oxidases, uricases, cholin oxidases, sarcosin oxidases, bilirubin oxydases, laccases, tyrosinases, peroxidases, catalases, superoxydesdimutases, plant or animal extracts containing the above-mentioned enzymes, and mixtures thereof.

50. (Previously Presented): A method according to claim 49, wherein the enzyme is a tyrosinase.

51. (Previously Presented): A method according to claim 49, wherein the hair dyeing composition comprises $5 \cdot 10^{-3}$ to 5 mg of enzyme per millilitre of final composition.

52. (Previously Presented): A method according to claim 1, wherein the oxidation dye is present in an amount ranging from 1 mM to 10 mM per litre of composition.

53. (Previously Presented): A method according to claim 1, wherein the hair dyeing composition further comprises an effective amount of a system comprising a first component selected amongst the Mn(II) and/or Zn(II) salts and oxide and the mixtures thereof and a second component selected from alkaline hydrogenocarbonates, earth alkaline hydrogenocarbonates and the mixtures thereof, the proportions of the first and second component are such that:

$$\frac{[Mn(II)]}{[HCO_3]} \leq 1 \text{ with } [Mn(II)] \neq 0$$

$$\frac{[Zn(II)]}{[HCO_3]} \leq 1 \text{ with } [Zn(II)] \neq 0$$

$$\frac{[Mn(II) + Zn(II)]}{[HCO_3]} \leq 1 \text{ with } [Mn(II)] \text{ and } [Zn(II)] \neq 0$$

where [Mn(II)], [Zn(II)] and [HCO₃] represent respectively the Mn(II), Zn(II) molar concentrations and HCO₃ in the composition.

54. (Previously Presented): A method according to claim 53, wherein the ratio

$$\frac{[Mn(II)]}{[HCO_3]} \text{ varies from } 10^{-5} \text{ to } 10^{-1}.$$

55. (Previously Presented): A method according to claim 53, wherein the ratio

$$\frac{[Zn(II)]}{[HCO_3]} \text{ varies from } 10^{-4} \text{ to } 1.$$

56. (Previously Presented): A method according to claim 53, wherein the ratio

$$\frac{[Mn(II) + Zn(II)]}{[HCO_3]} \text{ varies from } 10^{-5} \text{ to } 10^{-1}.$$

57. (Previously Presented): A method according to claim 53, wherein the Mn(II) and Zn(II) salts are selected from the group consisting of chloride, fluoride, iodure, sulphate, phosphate, nitrate, perchlorate, carboxylic acid salts and the mixtures thereof.

58. (Previously Presented): A method according claim 53, wherein the Mn(II) and/or Zn(II) salt is a chloride.

59. (Previously Presented): A method according to any of claims 53 to 58, characterized in that the carboxylic acid salts are hydroxylated carboxylic acid salts.

60. (Previously Presented): A method according to claim 53, wherein the hydroxylated carboxylic acid salt is gluconate.

61. (Previously Presented): A method according to claim 53, wherein the hydrogenocarbonate is selected from the group consisting of sodium hydrogenocarbonate, potassium hydrogenocarbonate and the mixtures thereof.

62. (Previously Presented): The method according to claim 1, wherein the at least one dye is an oxidation dye.

63. (Previously Presented): The method according to claim 1, wherein the oxyethylenated polymer amount in the composition is lower than 15% in weight based on the total volume of the composition.

64. (Previously Presented): The method according to claim 1, wherein the oxyethylenated polymer amount in the composition is lower than 10% in weight based on the total volume of the composition.

65. (Previously Presented): The method according to claim 7, wherein the physiologically acceptable medium further comprises a bacteriological property.

66. (Previously Presented): The method according to claim 11, wherein the (C₁-C₆) lower alkanol is selected from the group consisting of ethanol and isopropanol.

67. (Previously Presented): The method according to claim 18, wherein the application duration on the scalp and on the hair of the antipenetrating composition is from 1 to 10 minutes.

68. (Previously Presented): The method according to claim 62, wherein the application duration on the scalp and on the hair of the antipenetrating composition is from 1 to 10 minutes.

69. (Previously Presented): The method according to claim 20, wherein the oxidation base accounts for 0.005 to 8% in weight of the total weight of the composition.

70. (Previously Presented): A method according to claim 39, wherein coupling agent(s) account(s) for 0.001 to 10% in weight of the total weight of the composition.

71. (Previously Presented): A method according to claim 41, wherein the hair dyeing composition comprises one or more direct dyes selected from the group consisting of nitrated, azoic or anthraquinonic neutral dyes, nitrated, azoic or anthraquinonic cationic dyes, and nitrated, azoic or anthraquinonic anionic dyes.

72. (Previously Presented): A method according to claim 42 wherein direct dyes account for 0.01 to 10% in weight of the total weight of the composition.

73. (Previously Presented): A method according to claim 44, wherein the molar ratio of the amino acid(s) and of the protein(s) to the other oxidation dyes varies from 0.05 to 2.5.

74. (Previously Presented): A method according to claim 49, wherein the hair dyeing composition comprises $5 \cdot 10^{-2}$ to 0.5 mg of enzyme per millilitre of final composition.

75. (New): A method according to claim 62, wherein the oxidation dye is selected from the group consisting of oxidation bases, coupling agents, orthodiphenols and the mixtures thereof.